FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT

U.S. Department of Energy and Government of India

U.S.-India Joint Clean Energy Research and Development Center

Funding Opportunity Number: DE-FOA-0000XXX

Announcement Type: Initial

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Application Due Date:	**To be determined**

Comments on Draft FOA Due: MARCH 7, 2011
Submit Comments/Questions to: JCERDC@HQ.DOE.GOV and PROGRAM@INDOUSSTF.ORG

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PART I – FUNDING OPPORTUNITY DESCRIPTION

A. SUMMARY

Energy cooperation is a central element of the U.S.-India Strategic Partnership. During President Obama's November 2010 head of state visit to India, the U.S. Department of Energy (DOE) and the Government of India signed an Agreement to Establish a Joint Clean Energy Research and Development Center (JCERDC) designed to promote clean energy innovation by teams of scientists and engineers from India and the United States.[1] Priority areas for cooperation include solar energy, energy efficiency, smart grid, unconventional natural gas, and second-generation biofuels technologies. DOE and the Government of India intend to make funding awards under this Funding Opportunity Announcement (FOA) in three initial priority areas:

1. Energy efficiency of buildings
2. Second-generation biofuels
3. Solar energy

The work of the Center will be initiated by U.S.-India consortia[2] with the knowledge and experience to undertake first-rate collaborative research programs. These consortia will help bring together top talent from both countries and are expected to generate key technological advancement through genuine collaboration between U.S. and Indian researchers. Funding will be competitively awarded on the basis of a joint U.S.-India merit review of the applications to ensure genuine collaboration and partnership of the awardees. To keep the focus on international collaborative research and development, management and administrative expenses will be kept to a minimum. New "bricks and mortar" facilities will not be supported.

B. Joint Clean Energy Research and Development Center (CENTER)

On November 4, 2010, DOE and the Government of India entered into an Agreement[3] establishing the U.S.-India Joint Clean Energy Research and Development Center. The Center will facilitate joint research and development on clean energy by teams of scientists and engineers from India and the United States, and related joint activities, needed to deploy clean energy technologies rapidly with the greatest impact. To begin implementation of the Agreement, DOE and the Government of India are launching cooperation in three initial priority areas: **(1) Energy efficiency of buildings, (2) Second-generation biofuels, and (3) Solar energy.**

C. Center Structure & Governance

As per the Agreement, a joint U.S.-India Steering Committee on Clean Energy Science and Technology Cooperation will provide high-level review and guidance for the activities and direction of research conducted under the auspices of the Center.[4] The Steering Committee will be co-chaired by the Deputy Chairman of the Planning Commission and by the United States Secretary of Energy, and will have representatives of other interested ministries, departments and agencies of each government as jointly determined by DOE and the Government of India. The Steering Committee will meet annually or at such other time as the co-chairs jointly decide.

As per the Agreement, a Joint High Level Experts' Panel of twelve preeminent private sector, public

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[1] The Joint Clean Energy Research and Development Center (Center) is a priority initiative of the research component of the Partnership to Advance Clean Energy (PACE) initiative launched under the U.S.-India Memorandum of Understanding (MOU) to Enhance Cooperation on Energy Security, Energy Efficiency, Clean Energy and Climate Change signed on November 24, 2009 during Prime Minister Singh's head of state visit to the United States.

[2] The term "consortium" is used to mean any entity with multiple players working collaboratively and could encompass anything from an existing organization to an *ad hoc* teaming arrangement.

[3] Agreement between the Department of Energy of the United States of America and the Government of India for Cooperation on a Joint Clean Energy Research and Development Center (Agreement).

[4] The Steering Committee will not control budgets, research projects or personnel of Center operations in either country.

sector and academic experts will provide the Center with suggestions and insights to ensure that important issues on the state of, and needs for, clean energy research and development activities are brought to the attention of the Steering Committee. This panel will meet as needed, at least annually, to receive updates on the status of research and development activities and will be responsible for reaching out to the United States and Indian clean energy science and technology community for suggestions and encouraging participation in Center activities. As per the Agreement, where DOE and the Government of India decide to co-fund a specific project, a Joint Appraisal Committee comprised of an equal number of senior representatives of DOE and the Government of India will determine the terms and conditions under which the co-funded project shall be conducted.

Pursuant to Article V.6 of the Agreement, DOE and the Government of India will each establish a secretariat, which will work closely with each other as the principal coordinators of the Center's communications and activities. The functions of the secretariats are to:

1. Organize the meetings of the Steering Committee and the Joint Experts' Panel;
2. Help arrange special activities such as teleconferences and workshops;
3. Maintain archival records for the Steering Committee and the Joint Experts' Panel;
4. Act as clearing houses for new Center activities; and
5. Perform such other tasks as the Steering Committee directs.

The Indian secretariat will be housed with the Indo-U.S. Science and Technology Forum (IUSSTF), New Delhi. DOE's secretariat will be housed with DOE's Office of Policy and International Affairs, Washington DC.

D. Role of Consortia

The work of the Center will be conducted by consortia of United States and Indian researchers with the knowledge and experience to undertake first-rate collaborative research programs. These consortia may consist of entities or individuals from academia, the private sector, non-governmental institutions, national laboratories and others as applicable. Each consortium will need to establish an internal governance structure, which should be clearly described in the application along with a proposed approach to protection and allocation of intellectual property that may arise from the collaborative research. Each consortium will be required to match the level of funding awarded by the Department of Energy and the Government of India through cost sharing (U.S. entities will match DOE awards and Indian entities will match Government of India awards). The total amount of cost-share, including the expected structure of contributions, should be clearly described in the application.

A consortium structure is intended to encourage partnership in each of the three priority areas and create the potential for additional sources of funding to be leveraged with United States and Indian government funds. It is expected that private sector companies will be collectively best placed to understand the near-term research and development (R&D) needs, and the inclusion of potential competitors will enable increased coordination on topics of mutual interest and a broad, industry-wide impact. The consortium, therefore, should ideally include multiple partners from public and private sector companies, national laboratories, universities, and other research, analytic, and nonprofit organizations. Workforce development through universities associated with the consortium is an additional goal associated with this model.

E. DOE Funding

As per the Agreement, DOE will fund activities by U.S. entities or individuals of a selected consortium in accordance with U.S. laws and regulations. DOE funds cannot be used to pay for work conducted by Indian entities within a selected consortium.

F. Government of India Funding

As per the Agreement, the Government of India will fund activities by Indian entities or individuals of a selected consortium in accordance with India's laws and regulations. Government of India funds cannot be used to pay for work conducted by United States entities within a selected consortium.[5]

G. Team Arrangements

Entities and individuals are expected to submit applications as teams, with a minimum of two participants from the United States and two participants from India. Each applicant consortium must designate lead organizations from each country as prime award candidates. The designated lead organizations, i.e., the prime award candidates, must perform a greater percentage of the planned R&D than any individual team member or subawardee. Given the restrictions on funding, applications must explain how government funding will be separately tracked and utilized from cost-share funds provided by applicants.

H. Joint U.S.-India Merit Review Panel Process

Three joint U.S.-India Merit Review Panels will evaluate applications in each of the three priority areas to ensure genuine collaboration, partnership of the awardees, and presence of balanced funding opportunities for work between United States and Indian researchers. Prior to a comprehensive merit evaluation, DOE and the Government of India will each perform an initial review to determine that (i) the applicant is eligible for an award; (ii) the information required by the announcement has been submitted; (iii) all mandatory requirements are satisfied; and (iv) the proposed project is responsive to the objectives of the Funding Opportunity Announcement. Applications will be reviewed in accordance with the following process:

1. DOE and the Government of India will separately review submitted applications in each of the three priority areas (building efficiency, second generation biofuels, and solar energy) to ensure compliance with the Funding Opportunity Announcement.
2. Joint Merit Review Panels consisting of an equal number of U.S. and Indian merit reviewers (subject experts) will evaluate applications in accordance with the criteria identified in Part VII of this Announcement.
3. Each member of the Joint Merit Review Panel will submit his or her individual recommendation regarding the applications to the Joint Merit Review Panel team leader. The team leader will prepare a summary of the recommendations and furnish copies of the summary and the individual recommendations to representatives of both governments and to the Joint Appraisal Committee.
4. The DOE - Government of India Joint Appraisal Committee will rank consortium finalists based on the Joint Merit Review Panel's recommendations and the Program Policy Factors and recommend consortia finalists to the deciding officials for award.
5. DOE and the Government of India each retain the exclusive right to make a final award decision. Funding will be awarded only when a consortium is selected by each government.

I. Initial R&D Priority Areas

As per the Agreement, the Center will undertake R&D in the initial priority areas of (1) building efficiency, (2) second generation biofuels, and (3) solar energy. Applications should respond to the following objectives[6]:

Building Energy Efficiency: The objective is to contribute to dramatic improvements in the energy efficiency of buildings (commercial or residential) in the United States and India. Recommended topics

[6] Merit criteria for each of the three priority areas are identified in Part VII of this Announcement.

include: building heating and cooling, cool roofs, advanced lighting, advanced shells, daylighting designs, energy-efficient building materials, software for building design and operations, sensor and control networks, and ways to reduce the cost of building retrofits. Research on integrating renewable energy technologies such as building-integrated photovoltaics (BIPV), wind energy, ground source heat pumps, and biomass could also be explored. With respect to these technologies, emphasis will be placed on the understanding of and approach to identifying research gaps; prioritization of research; implementation of collaborative research teams drawing on expertise in both nations.

Second-Generation Biofuels: The objective is to contribute to the improvement or development of second generation biofuels technologies that support downstream commercial deployment through enhanced process efficiency, cost-effectiveness, and environmental sustainability. Possible topics include: conversion technologies for second generation biofuels, including processes that utilize ligno-cellulosic materials (e.g., switch grass, crop residues and sorted MSW), non-food terrestrial oil crops (e.g., jatropha), and algae; improvements or new technologies at the feedstock interface or for feedstock pretreatment; algal cultivation and harvesting system innovations and improvements for either microalgae or macroalgae, and/or appropriate strain characterization or improvement; and the development of test methods, procedures and protocols, standards and certification for different biofuels and co-product end-use applications. With respect to these technologies, emphasis will be placed on the understanding of and approach to identifying research and technology gaps; prioritization of research and development activities; and implementation of collaborative research teams drawing on expertise in both nations to achieve mutually beneficial outcomes.

Solar Energy: The objective is to contribute to dramatic improvements in solar energy technology, establishing the scientific basis needed to underpin the efficient capture, conversion, storage and utilization of solar energy for electricity generation in a cost-effective manner. The challenge in converting sunlight to electricity via photovoltaic cells is to reduce the cost/watt of delivered solar electricity through dramatic improvements in conversion efficiency. Devices that operate above the existing performance limit will require the development of new materials and new concepts for solar photoconversion. A description of the challenges and opportunities in this field can be found in the Workshop Report on Basic Research Needs for Solar Energy Utilization: http://www.science.doe.gov/bes/reports/list.html. Of high priority are new concepts and architectures in solar electricity production, including organic and hybrid organic/inorganic conversion systems, innovative nanoscale designs of interfaces and cells, and novel materials, as well as advanced theory, modeling and simulation of such systems. Additional topics include: advanced photovoltaic (PV) technologies (i.e. organic, crystalline, non-single crystal devices, photo-electrochemical, advanced multi-junction, low dimensional structures, optimized interfaces, and transport properties); concentrating solar power (CSP) technologies (e.g., thermal storage, advanced fluids, high temperature concepts and materials); integration in the electrical power grid (e.g., interconnection, intermittency, and balancing); low cost and environmentally safe manufacturing techniques to support investment decisions on solar applications; and solutions to PV and solar thermal component reliability issues. With respect to these technologies, expertise from both countries will be used to identify research gaps; prioritize research topics; and implement collaborative research teams focusing on innovations that are relevant to the Indian and/or U.S. energy frameworks.

PART II – DOE AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT

DOE anticipates awarding cooperative agreements under this Funding Opportunity Announcement. See Part III.C below for information with respect to an award involving a National Laboratory or Federally Funded Research and Development Center.

B. ESTIMATED FUNDING

DOE expects to award approximately $5,000,000 in the first year of operation, and an additional $5,000,000 in support of Center activities in years FY 2012 through FY 2015.[7]

C. MAXIMUM AND MINIMUM AWARD SIZE

Ceiling (i.e., the maximum amount for an individual award made under this announcement):
None.

Floor (i.e., the minimum amount for an individual award made under this announcement):
$1 million per year in expenditures.

D. EXPECTED NUMBER OF AWARDS

DOE anticipates making a minimum of three awards under this announcement, one for each research area. If none of the proposals in a particular area are found suitable for award, DOE and GOI have the discretion not to make any awards.

E. ANTICIPATED AWARD SIZE

The anticipated award size for projects under each Program/Topic Area in this announcement is:

Program/Topic Area	Total Award Size (over five years)
1. Building Energy Efficiency	**$6,250,000**
2. Second Generation Biofuels	**$6,250,000**
3. Solar Energy	**$12,500,000**

F. PERIOD OF PERFORMANCE

Project periods will be a maximum of five years.

G. TYPE OF APPLICATION

New applications will be accepted under this announcement.

[7] U.S. awards in years FY2011 through FY2015 are subject to annual Congressional appropriations.

PART III – GOVERNMENT OF INDIA AWARD INFORMATION

A. ESTIMATED FUNDING

Government of India expects to award approximately $5,000,000 (INR 22.50 crores) in the first year of operation, and an additional $5,000,000 in support of Center activities in years FY 2012 through FY 2015.

B. MAXIMUM AND MINIMUM AWARD SIZE

Ceiling (i.e., the maximum amount for an individual award made under this announcement):
None.

Floor (i.e., the minimum amount for an individual award made under this announcement):
INR 4.50 crores per year in expenditures

C. EXPECTED NUMBER OF AWARDS

Government of India anticipates making a minimum of three awards under this announcement, one for each research area. If none of the proposals in a particular area are found suitable for award, DOE and GOI have the discretion not to make any awards.

D. ANTICIPATED AWARD SIZE

The anticipated award size for projects under each Program/Topic Area in this announcement is:

Program/Topic Area	Total Award Size (over five years)
1. Building Energy Efficiency	**INR 28.12 Crores**
2. Second Generation Biofuels	**INR 28.12 Crores**
3. Solar Energy	**INR 56.25 Crores**

I$ = INR 45

E. PERIOD OF PERFORMANCE

Project periods will be a maximum of five years.

F. TYPE OF APPLICATION

New applications will be accepted under this announcement.

PART IV - ELIGIBILITY INFORMATION FOR UNITED STATES APPLICANTS

A. ELIGIBLE APPLICANTS

United States Government funding: All types of domestic entities, including DOE Federally Funded Research and Development Centers (FFRDC) contractors and government operated laboratories, are eligible to apply as prime applicants (i.e., the designated lead organization) with the exception of other Federal agencies, non-DOE FFRDC contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. There is no limit to the number of applications that may be submitted by a single entity or institution in each of the three priority areas.

B. COST SHARING

United States Government funding: Cost sharing of 50% is required. The cost share is based on the total allowable costs (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. Cost sharing may be considered within the "Program Policy Factors." See Part VII.B.3.

C. TEAM ARRANGEMENTS

Entities and individuals are expected to submit applications as teams, with a minimum of two participants from the United States and two participants from India. Each applicant consortium must designate lead organizations from each country as prime award candidates. The designated lead organizations, i.e., the prime award candidates, must perform a greater percentage of the planned R&D than any individual team member or subawardee. Given the restrictions on funding, applications must explain how government funding will be separately tracked and utilized from cost-share funds provided by applicants.

D. DOE/NNSA NATIONAL LABORATORY CONTRACTORS

A DOE/NNSA National Laboratory Contractor is eligible to apply for funding under this announcement if its cognizant contracting officer provides written authorization and this authorization is submitted with the application. If a DOE/NNSA National Laboratory Contractor is selected for award, the proposed work will be authorized under the DOE work authorization process and performed under the laboratory's M&O contract. The following wording is acceptable for the authorization:

- "Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory and will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory."

E. FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTER (FFRDC) CONTRACTORS

Federally Funded Research and Development Center (FFRDC) Contractors may be proposed as team members on another entity's application, subject to the following guidelines:

- Authorization for non-DOE/NNSA FFRDCs: The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award and must not place the FFRDC contractor in direct competition with the private sector.

Authorization for DOE/NNSA FFRDCs: The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE/NNSA FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

- "Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector."

Value/Funding: The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE/NNSA will fund a DOE/NNSA FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share: 50% cost share is required.

FFRDC Contractor Effort: The scope of work to be performed by the FFRDC contractor may not be more significant than the scope of work to be performed by the applicant.

Responsibility: The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

PART V - ELIGIBILITY INFORMATION FOR INDIA APPLICANTS

A. ELIGIBLE APPLICANTS

Government of India Funding: National laboratories, universities, and Public and private sector companies, and other research organizations recognized under SIRO/ DSIR are eligible to apply. There is no limit to the number of applications that may be submitted by a single entity or institution in each of the three priority areas.

B. COST SHARING

Government of India funding will be up to a maximum of 50% of the total cost. Cost sharing for the balance 50% from the consortia partners will be required. Existing Biotechnology Industry Partnership Program (BIPP) model will be adopted for funding (http://birapdbt.nic.in/programmes.php).

C. TEAM ARRANGEMENTS

Entities and individuals are expected to submit applications as teams, with a minimum of two participants from the United States and two participants from India. Each applicant consortium must designate lead organizations from each country as prime award candidates. The designated lead organizations, i.e., the prime award candidates, must perform a greater percentage of the planned R&D than any individual team member or subawardee. Given the restrictions on funding, applications must indicate the timeline of government fund requirements and explain how government funding will be separately tracked and utilized from cost-share funds provided by applicants.

PART VI –APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST AND DOWNLOAD APPLICATION PACKAGE

Application forms and instructions are available at Grants.gov, pi.energy.gov, and www.indousstf.org.

For those applicants who wish to download application forms from grants.gov, the following instructions apply:

To access these materials, go to http://www.grants.gov , select "Apply for Grants," and then select "Download Application Package." Enter the Catalog of Federal Domestic Assistance (CFDA) and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package. Each applicant consortium must register with grants.gov to utilize the system and a DUNS number is required.

B. LETTER OF INTENT AND PRE-APPLICATION

1. Letter of Intent

A Letter of Intent is not required.

2. Pre-application

Pre-applications are not required.

3. Funding Opportunity Announcement Conference

A conference will not be held for this funding opportunity announcement.

C. CONTENT AND FORM OF APPLICATION – 424 (Email Submission - forms to be developed as word documents and uploaded)

You must submit a separate application for each priority area (building energy efficiency, second generation biofuels, solar energy).

You must complete the mandatory forms and any applicable optional forms in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

Text below highlighted in grey applicable only for US applicants

1. **SF 424 Application for Federal Assistance:** Complete this form first to populate data in other forms. Complete all the required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the "Help Mode" (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 18 can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm under Certification and Assurances.

2. **Project/Performance Site Location(s)**
   Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

   Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code, for example VA-001. Hover over this field for additional instructions.

Use the Next Site button to expand the form to add additional Project/Performance Site Locations.

3. Research and Related (R&R) Other Project Information

Complete questions 1 through 5 and attach files. The files must comply with the following instructions:

Project Summary/Abstract (Field 7 on the Form)

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the listing of consortia participants, designated lead organizations, description of priority research projects, methods to be employed, benefits and outcomes of the research, the dollar value of the effort to be performed by each participant, national affiliation of each participant and a brief description of the capacity in which the participant will be participating. This document must not include any proprietary or sensitive business information as DOE or the Government of India may make it available to the public. The project summary must not exceed one page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) with font not smaller than Times New Roman 12 point. To attach a Project Summary/Abstract, click "Add Attachment."

Project Narrative (Field 8 on the Form)

The project narrative must not exceed 50 pages, including charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left, and right). **EVALUATORS WILL ONLY REVIEW THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE.** A cover page and table of contents must be included at the beginning of the project narrative but neither will count against the page limit. Furthermore, information required to be submitted in the requested appendices are not subject to the project narrative page limit. Headers/footers containing page numbers and project titles/logos may be inserted within the required 1" margins. The font must not be smaller than Times New Roman 12 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application, because the information contained in these sites will not be reviewed. See Part XI.D for instructions on how to mark proprietary application information. To attach a Project Narrative, click "Add Attachment."

The contents of the project narrative are specified in order to ensure that the merit reviewers have the necessary information to conduct proper evaluations.

Consortium / Management Team Criteria
A successful application will include a comprehensive and systematic approach to achieving program objectives related to the subject technologies.

Provide the annual plan for year one for your Consortium. The plan shall include: (1) how the Consortium will effectively manage and monitor progress of the individual research efforts; (2) procedures and plans for communications both within the consortium and outside the consortium; (3) a list of topic areas and projects considered for possible subawards; (4) strategies to promote the transfer of the results of the selected projects to relevant constituencies in India and the U.S. through cyber-meetings, forum, etc.; (5) the commitment of the designated lead to the other participating consortium members; (6) the authority or process within a consortium to resolve funding issues that may arise in the implementation of R&D activities and (7) High Level Metrics Reporting Plan.

The application should also include the following appendices:

- **Appendix 1: Biographical Sketch**
  Provide a biographical sketch for each Consortium Director and each senior/key person listed in Section A on the R&R Budget form, or proposed as a subawardee or consultant, if they meet the definition of a senior/key person. The biographical information for each person must not exceed three pages when printed on 8.5" by 11" paper with 1" margins (top, bottom, left, and right) with font not smaller than Times New Roman 12 point. Please provide this information as an appendix

to your project narrative. **Do not attach a separate file. The biographical sketch appendix will not count in the project narrative page limitation.** Include:

Education and Training: Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree, and year.

Research and Professional Experience: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications: Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights, and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities: List no more than five professional and scholarly activities related to the effort proposed.

Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers: Provide the following information in this section.

Collaborators and Co-editors: List in alphabetical order all persons, including their current organizational affiliation, who are, or who have been, collaborators or co-authors with you on a research project, book or book article, report, abstract, or paper during the 48 months preceding the submission of this application. Also, list any individuals who are currently or have been, co-editors with you on a special issue of a journal, compendium, or conference proceedings during the 24 months preceding submission of this application. If there are no collaborators or co-editors to report, state "None.".

Graduate and Postdoctoral Advisors and Advisees: List the names and current organizational affiliations of your graduate advisor(s) and principal postdoctoral sponsor(s) during the last five years. Also, list the names and current organizational affiliations of your graduate students and postdoctoral associates during the last five years.

- **Appendix 2: Relevant Experience**
  For each Director and relevant consortium members, provide a list of experiences working on clean energy.

- **Appendix 3: Current and Pending Support (requirement for U.S. and Indian entities or individuals)**
  Provide a list of all current and pending support (both Federal and non-Federal for U.S. entities; and central, state and other national and international organizations for Indian entities) for the Director, and senior/key persons, including subawardees and consultants, for ongoing projects and pending applications as an appendix to the project narrative. For each organization providing support, show the total award amount for the entire award period (including indirect costs) and the number of person-months per year to be devoted to the project by the senior/key person. Concurrent submission of an application to other organizations for simultaneous consideration will not prejudice its review. **Do not attach a separate file. The current and pending support appendix will not count in the project narrative page limitation.**

- **Appendix 4: Bibliography & References Cited**
  Provide a bibliography of any references cited in the project narrative. Please provide this information as an appendix to your project narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal

title, book title, volume number, page numbers, and year of publication. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. In order to reduce the number of files attached to your application, please provide the Bibliography and References Cited information as an appendix to your project narrative. **Do not attach a file in field 8. This appendix will not count in the project narrative page limitation**.

- **Appendix 5: Facilities & Other Resources**
  This information is used to assess the capability of the organizational resources, including sub-awardee resources, available to perform the effort proposed. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical, and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. In order to reduce the number of files attached to your application, please provide the Facility and Other Resource information as an appendix to your project narrative. **Do not attach a file in field 9. This appendix will not count in the project narrative page limitation.**

- **Appendix 6: Equipment**
  List major items of equipment already available for this project and, if appropriate, identify location and pertinent capabilities. In order to reduce the number of files attached to your application, please provide the Equipment information as an appendix to your project narrative. **Do not attach a file in field 10. This appendix will not count in the project narrative page limitation**.

- **Appendix 7: Cost Sharing**
  Each third party contributing to cost sharing is required to submit a commitment letter that identifies: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. Please provide this information as an appendix to your project narrative. **Do not attach a separate file. This appendix will not count in the project narrative page limitation.**

- **Appendix 8: Statement of Conflict of Interest**
  At the time of submission, the applicant shall include information identifying potential, apparent, or actual organizational and individual conflicts of interest and proposed mitigation. This shall include applicants, their team members, and senior/key personnel named in the application. Negative responses are also required. Prior to award, DOE and the Government of India reserve the right to require the submission of a Conflict of Interest Management Plan describing the applicants approach to managing conflicts of interest. **Do not attach a separate file. This appendix will not count in the project narrative page limitation.**

- **Appendix 9: Intellectual Property Plan**
  The applicant shall include a proposed plan for the protection and allocation of any intellectual property arising from the R&D collaboration.

  Intellectual Property Rights (IPR) are subject to Annex I, Intellectual Property (IPR Annex), of the Agreement on Science and Technology Cooperation between the Government of the United States of America and the Government of the Republic of India (S&T Agreement) and the respective standard IPR provisions of the Parties. The IPR Annex to the S&T Agreement will provide the guiding principles for the IPR allocation and sharing mechanism. The IPR allocation and sharing mechanism is to be mutually worked out and agreed upon by the Parties and consortium members in conformity with their organizations' policies, the respective Government agencies' laws and regulations, and in accordance with Annex I of the S&T Agreement. **Do not attach a separate file. This appendix will not count in the project narrative page limitation. (S&T Agreement provided in the reference material.)**

- **Appendix 10: Coordination Plan**

If multiple Principal Investigators will be designated, provide a Coordination and Management Plan that describes the organization's structure of the project as it pertains to the designations of multiple Principal Investigators. This plan, at a minimum, must describe the process for making decisions on scientific/technical direction, publications, and intellectual property issues. The plan must also describe Principal Investigators' roles and administrative, technical, and scientific responsibilities for the project; communication plans; and procedures for resolving conflicts. **Do not attach a separate file. This appendix will not count in the project narrative page limitation.**

- **Appendix 11: Statement of Project Objectives (SOPO)**
The application must contain a single, detailed Statement of Project Objectives that addresses how the project objectives will be met. The Statement of Project Objectives must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The Statement of Project Objectives may be released to the public by DOE and the Government of India in whole or in part at any time. It is therefore required that it shall not contain proprietary or confidential business information. The Statement of Project Objectives is generally less than 10 pages in total for the proposed work.[8] Applicants shall prepare the Statement of Project Objectives in the following format:

TITLE OF WORK TO BE PERFORMED

(Insert the title of work to be performed. Be concise and descriptive.)

A. OBJECTIVES

Include one paragraph on the overall objective(s) of the work. Also, include objective(s) for each phase of the work.

B. SCOPE OF WORK

This section should not exceed one-half page and should summarize the effort and approach to achieve the objective(s) of the work for each Phase.

C. TASKS TO BE PERFORMED

Tasks, concisely written, should be provided in a logical sequence and should be divided into the phases of the project, as appropriate. This section provides a brief summary of the planned approach to this project. An outline of the Project Management Plan (referenced in Task 1.0 below and required to be submitted with your application) is provided later in this Part.

PHASE I

Task 1.0 – Project Management and Planning

(Description includes work elements required to revise and maintain the Project Management Plan and to manage and report on activities in accordance with the plan.)

Subtask 1.1

(Description)

Task 2.0 - (Title)

PHASE II (Optional)

Task 3.0 - (Title)

D. DELIVERABLES

The Recipient shall provide a list of project deliverables. These reports shall also be identified within the text of the Statement of Project Objectives. The sample format for deliverables is provided as Appendix 14 – Biotechnology Industry Partnership Program (BIPP) – Objective Wise Activities & Timelines (Category I & II).

[8] The Statement of Project Objectives will not be counted as part of the overall page number of an application.

- **Appendix 12: Organizational Letters of Commitment**
  A single organizational letter of commitment is required from each organization participating as a team member. Each letter of commitment from an organization participating as a team member must be signed by the person authorized to commit the organization to a legally binding agreement. Each organizational letter of commitment is limited to one page. **Do not attach a separate file. This appendix will not count in the project narrative page limitation.**

- **Appendix 13: Other Attachments**
  If you need to elaborate on your responses to questions 1-5 on the "Other Project Information" document, please provide this information as an appendix to your project narrative. **Do not attach a separate file. This appendix will not count in the project narrative page limitation.**

  Appendix 14: Biotechnology Industry Partnership Program (BIPP) – Objective Wise Activities & Timelines (Category I & II) (http://birapdbt.nic.in/programmes.php).

Do not attach any of the requested appendices described above as files for fields 8, 9, 10, and 11, instead follow the above instructions to include the information as appendices to the project narrative file (these appendices will not count in the project narrative page limitation).

Also, attach the following files:

Budget for DOE/NNSA National Laboratory Contractor, if applicable (requirement for U.S. entities or individuals).

If a DOE/NNSA National Laboratory contractor is to perform any portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1A, Work Authorization System. This order and a sample of the DOE Field Work Proposal (FWP) form are available at http://www.management.energy.gov/documents/o4121.pdf. For purposes of satisfying this requirement, applicants are required to submit the DOE FWP face and budget pages (pages 1 and 2 of the sample form) with the application as part of the Budget for DOE/NNSA National Laboratory Contractor file. Furthermore, the information requested in blocks 1. through 15. and 17. through 19. of the sample FWP must be furnished with the application. The remainder of the information requested in blocks 16., 20., and 21. of the sample form will be required to be submitted through the DOE Work Authorization System by the successful applicant after selection. In addition, include the required cognizant Contracting Officer approval authorizing the participation of the DOE/NNSA National Laboratory as described in Part IV.D. This information is required in addition to the budgetary information requested herein (Budget, Subaward Budget, and Budget Justification, as applicable). Use up to 10 letters of the DOE/NNSA National Laboratory name (plus.pdf) as the file name and attach to the R&R Other Project Information form in Field 11 – Add Attachments.

4. Budget File - SF 424 A Excel, Budget Information - Non-Construction Programs File

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, "Budget Information - Non Construction Programs" form, which is also available on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement. Save the information in a single file named "SF424A.xls," and click on "Add Optional Other Attachment" to attach.

Budget Justification

You must justify the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subaward/consultant work and cost of each subaward/consultant; describe purpose of proposed travel, number of travelers, and number of travel days; list general categories of supplies and amount for each category; and provide

any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. If cost sharing is required, you must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) stating that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing - cash, services, or property. By submitting your application, you are providing assurance that you have signed letters of commitment. Successful applicants will be required to submit these signed letters of commitments. The budget justification for the SF-424A is in Excel format. The sample format form PMC 123.1 is provided. Save the budget justification information in a single file named "BudgetJustification.pdf," and click on "Add Optional Other Attachment" to attach.

5. **Subaward Budget Form**

   You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be more than $100,000 or 50 percent of the total work effort (whichever is less). Use the SF 424 A Excel for Non Construction Programs. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee's name (plus .xls) as the file name (e.g., ucla.xls or energyres.xls), and click on "Add Optional Other Attachment" to attach.

6. **Project/Performance Site Location(s)**

   Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

7. **Disclosure of Lobbying Activities (SF-LLL)** (not required for Indian applicants)

   If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

Summary of Required Forms/Files
(Forms to be developed as word documents)

Your application must include the following documents:

Name of Document	Format	Attach to
SF 424 Application for Federal Assistance	Form	N/A
RESEARCH AND RELATED Other Project Information	Form	N/A
Project Summary/Abstract	PDF	Field 7
Project Narrative, including required appendices	PDF	Field 8
Budget for DOE/NNSA National Laboratory Contractor, if applicable	PDF	Field 10
SF-424A BUDGET INFORMATION	Form	N/A

Budget Justification (PMC 123.1)	PDF	N/A
SUBAWARD BUDGET ATTACHMENT(S) FORM, if applicable	Form	N/A
SF-LLL Disclosure of Lobbying Activities, if applicable	Form	N/A

D. SUBMISSION FROM SUCCESSFUL APPLICANT

If selected for award, DOE or the Government of India reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Cost Sharing Contributions
- Environmental Evaluation Notification Form, if applicable
- Conflict of Interest Management Plan

E. SUBMISSION DATES AND TIMES

1. Pre-application Due Date

Pre-applications are not required.

2. Application Due Date

Applications must be received by May 31, 2011, not later than 8:00 PM Eastern Time [June 1, 2011 at 5:30 AM IST]. Late submissions may not be reviewed. You are encouraged to transmit your application well before the deadline.

F. INTERGOVERNMENTAL REVIEW (Applicable only for U.S. applicants)

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS (Applicable only for US applicants)

Cost Principles**.** Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600 or the Contract Cost Principles in FAR Part 31 and DEAR Parts 931 and 970.31.

Pre-award Costs**.** Recipients, other than DOE/NNSA National Laboratory contractors, may charge pre-award costs to an award resulting from this announcement that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. Recipients must obtain the approval of the Contracting Officer for any pre-award costs that are for periods greater than this 90-day calendar period prior to incurrence of such costs.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit

The complete application package is provided with this FOA. Forms, certifications and questionnaires to be completed are contained in the Appendices. The remainder of the application documents are self-created. The forms may also be downloaded and saved from grants.gov to create your application package.

Once your application is completed, submit the files identified in Part VI, Section C by e-mail to JCERDC@HQ.DOE.GOV and PROGRAM@INDOUSSTF.ORG. Please identify the priority area your application supports in the subject line of the e-mail.

2. **Application Receipt Notices (To be developed.)**

PART VII - APPLICATION JOINT REVIEW INFORMATION

A. Objectives

Applications should respond to the following objectives:

Criteria for Building Energy Efficiency: The objective is to contribute to dramatic improvements in the energy efficiency of buildings (commercial or residential) in the United States and India. Recommended topics include: building heating and cooling, cool roofs, advanced lighting, advanced shells, daylighting designs, energy-efficient building materials, software for building design and operations, sensor and control networks, and ways to reduce the cost of building retrofits. Research on integrating renewable energy technologies such as building-integrated photovoltaics (BIPV), wind energy, ground source heat pumps, and biomass could also be explored. With respect to these technologies, emphasis will be placed on the understanding of and approach to identifying research gaps; prioritization of research; implementation of collaborative research teams drawing on expertise in both nations.

Criteria for Second-Generation Biofuels: The objective is to contribute to the improvement or development of second generation biofuels technologies that support downstream commercial deployment through enhanced process efficiency, cost-effectiveness, and environmental sustainability. Possible topics include: conversion technologies for second generation biofuels, including processes that utilize ligno-cellulosic materials (e.g., switch grass, crop residues and sorted MSW), non-food terrestrial oil crops (e.g., jatropha), and algae; improvements or new technologies at the feedstock interface or for feedstock pretreatment; algal cultivation and harvesting system innovations and improvements for either microalgae or macroalgae, and/or appropriate strain characterization or improvement; and the development of test methods, procedures and protocols, standards and certification for different biofuels and co-product end-use applications. With respect to these technologies, emphasis will be placed on the understanding of and approach to identifying research and technology gaps; prioritization of research and development activities; and implementation of collaborative research teams drawing on expertise in both nations to achieve mutually beneficial outcomes.

Criteria for Solar Energy: The objective is to contribute to dramatic improvements in solar energy technology, establishing the scientific basis needed to underpin the efficient capture, conversion, storage, and utilization of solar energy for electricity generation in a cost-effective manner. The challenge in converting sunlight to electricity via photovoltaic cells is to reduce the cost/watt of delivered solar electricity through dramatic improvements in conversion efficiency. Devices that operate above the existing performance limit will require the development of new materials and new concepts for solar photoconversion. A description of the challenges and opportunities in this field can be found in the Workshop Report on Basic Research Needs for Solar Energy Utilization: http://www.science.doe.gov/bes/reports/list.html. Of high priority are new concepts and architectures in solar electricity production, including organic and hybrid organic/inorganic conversion systems, innovative nanoscale designs of interfaces and cells, and novel materials, as well as advanced theory, modeling and simulation of such systems. Additional topics include: advanced photovoltaic (PV) technologies (i.e. organic, crystalline, non-single crystal devices, photo-electrochemical, advanced multi-junction, low dimensional structures, optimized interfaces, and transport properties); concentrating solar power (CSP) technologies (e.g., thermal storage, advanced fluids, high temperature concepts and materials); integration in the electrical power grid (e.g., interconnection, intermittency, and balancing); low cost and environmentally safe manufacturing techniques to support investment decisions on solar applications; and solutions to PV and solar thermal component reliability issues. With respect to these technologies, expertise from both countries will be used to identify research gaps; prioritize research topics; and implement collaborative research teams focusing on innovations that are relevant to the Indian and/or U.S. energy frameworks. The application should include a description of the potential impact of the research topic and a prioritized work plan that illustrates the collaborative nature of the project and how it draws on the expertise in both nations.

B. Criteria

1. Initial Review Criteria

Prior to a comprehensive merit evaluation, DOE and the Government of India will each perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If a written application fails to meet all of the mandatory requirements, the application will not be forwarded for comprehensive merit review.

2. Merit Review Criteria

The following criteria will be used to evaluate the Applicant's Annual Plan:

Scientific and Technical Merit (35%)

- Degree to which the proposed methodologies will lead to the implementation of research which helps achieve the FOA objectives.
- Degree to which the proposed activities identify and/or make progress on new concepts within the context of a collaborative or cooperative exchange in the focus areas of the FOA.
- Degree to which the proposed activities generate novel concepts, approaches, methodology, tools or technologies.
- Degree to which the proposed activities address an innovative hypothesis or critical barrier to progress in the field.
- Awareness of commercial and emerging technologies and processes and how the proposed activities provide the potential for significantly accelerating development and deployment of advanced technologies in the areas of interest of the FOA.
- Adequacy of the discussion of the technical and process risks associated with the proposed activities.
- An understanding of other existing research center models, including both their strengths and weaknesses from which to draw experiential operational and management data and lessons learned that could be applied towards the successful creation and operations of the consortium.

Technical Approach, Plan, and Understanding (35%)

- Extent to which the plan encourages collaboration between U.S. and Indian institutions and researchers.
- Adequacy and feasibility of the applicant's technical approach, work plan, and management plan.
- Appropriateness of the division of the activities into logical phases, tasks, and subtasks necessary to accomplish the Center's objectives.
- Appropriateness, rationale, and completeness of the proposed Statement of Project Objectives (SOPO).
- Reasonableness of the proposed project schedule, staffing plan, and planned travel.
- Adequacy of the plan to affect a process that results in outcome oriented deliverables aimed at technology development.
- Adequacy of the consortium plan for encouraging a diversity of corporate sector representatives on

the PSB (i.e., venture capital, start-up, and multi-national enterprise).

- Adequacy of the consortium plan for managing its work across the spectrum from basic research through development and, if applicable, on to commercialization of relevant clean energy technology, including institutional experience/expertise in these activities and any proposed corporate partnerships.

- Tracking the adequacy of the consortium plan for managing its work across the spectrum from basic research through development, and if applicable, on to commercialization of relevant clean energy technology.

Applicant/Team Capabilities, Organization, Facilities, and Management Capabilities (30%)

- Demonstrated experience of applicants in joint U.S.-India research.

- Appropriateness and extent of key personnel credentials, capabilities, and experience.

- Demonstrated experience of the applicant and participating organization(s) in the technology areas addressed in the application and in managing similar projects.

- Clarity, logic and likely effectiveness of the project organization, including subcontractors; the roles and responsibilities of each partner for each task and the availability of key personnel to complete the proposed project.

- The adequacy (quality, availability, and appropriateness) of the facilities and equipment to perform project tasks.

- The ability of the applicant to succeed based on prior experience in managing projects of similar type, size, and complexity.

- Adequate details provided to support the applicant's ability to complete activities within the timeframe identified and all activities within the period of award.

- Demonstrated experience of the applicant in developing and implementing intellectual property management plans in project involving multiple parties, including international partners.

- Adequacy of the applicant’s plans to leverage the experience and expertise of other organizations.

- Adequacy and completeness of the discussion of how the specific tasks to be performed under the SOPO are designed and integrated to achieve the project objectives, including the scheduling and sequencing of all tasks and the identification of key relationships between task activities and important milestones and decision points.

- Adequacy of the plan for establishing the baseline cost for the project and for assigning costs to specific tasks identified in the SOPO.

- Adequacy of the project management system to monitor and control project scope, cost, and schedule.

- Adequacy of the plan for ensuring effective coordination and communication between: (1) all project team members and other project participants, including technical, business, financial, permitting and other appropriate entities; and (2) the project performers, the Steering Committee, DOE and GOI.

- Adequacy of the plan for assessing, identifying, tracking and managing project risk.

- Adequacy of the plans for providing real-time status updates on project status.

3. Program Policy Factors

The selection official will consider the following program policy factors in the selection process:

- Accelerating development and more rapid deployment of clean energy technologies
- Promoting U.S.-India cooperation on clean energy
- Supporting a highly qualified team with a diversity of talent and in-depth expertise from a broad spectrum of industry, academia and laboratories, with both technical and policy knowledge
- Leveraging Government funds to advance policy and technical goals that would not be met with exclusively private support
- Leveraging external support beyond the 50% cost share

C. REVIEW AND SELECTION PROCESS

1. Joint U.S-India Merit Review

Three joint U.S.-India Merit Review Panels will evaluate applications in each of the three priority areas to ensure genuine collaborative partnership of the awardees and presence of balanced funding opportunities for work between United States and Indian researchers. Prior to a comprehensive merit evaluation, DOE and the Government of India will each perform an initial review to determine that (i) the applicant is eligible for an award; (ii) the information required by the announcement has been submitted; (iii) all mandatory requirements are satisfied; and (iv) the proposed project is responsive to the objectives of the funding opportunity announcement. Applications will be reviewed in accordance with the following process:

1. DOE and the Government of India will separately review submitted applications in each of the three priority areas (building efficiency, second generation biofuels, and solar energy) to ensure compliance with the Funding Opportunity Announcement.
2. Joint Merit Review Panels consisting of an equal number of U.S. and Indian merit reviewers (subject experts) will evaluate applications in accordance with the criteria identified in Part VII of this Announcement.
3. Each member of the Joint Merit Review Panel will submit his or her individual recommendation regarding the applications to the Joint Merit Review Panel team leader. The team leader will prepare a summary of the recommendations and furnish copies of the summary and the individual recommendations to representatives of both governments and to the Joint Appraisal Committee.
4. The DOE - Government of India Joint Appraisal Committee will rank consortium finalists based on the Joint Merit Review Panel's recommendations and the Program Policy Factors and recommend consortia finalists to the deciding officials for award.
5. DOE and the Government of India each retain the exclusive right to make a final award decision. Funding will be awarded only when a consortium is selected by each government.

2. Selection

The Selection Official will consider the merit review recommendations, program policy factors, and the amount of funds available.

3. Discussions and Award

Contracting Officers may enter into discussions with selected applicants for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the U.S. Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR Part 600; and/or (4) the Government of India needs additional information to determine that the recipient is capable of complying with legal requirements; (5) special terms and conditions are required. Failure to resolve satisfactorily the issues identified will preclude award to the selected applicant.

D. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES

Notification to the applicant selected for award and making the awards in August 2011.

PART VIII – DOE AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Selection

The notice of selection is not an authorization to begin performance. Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award

If a selected applicant is an entity other than a DOE/NNSA National Laboratory contractor, an Assistance Agreement issued by the contracting officer is the authorizing award document. It normally includes either as an attachment or by reference: (1) Special Terms and Conditions; (2) Applicable program regulations, if any; (3) Application as approved by DOE; (4) DOE assistance regulations at 10 CFR Part 600, or, for research and to a university or non-profit, the Research Terms & Conditions and the DOE Agency Specific Requirements at http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp.; (5) National Policy Assurances to be incorporated as award terms; (6) Budget Summary; and (7) Federal Assistance Reporting Checklist, which identifies the reporting requirements.

If the selected applicant is a DOE/NNSA National Laboratory contractor, DOE will fund the DOE/NNSA National Laboratory contractor through the DOE field work authorization system under its existing contract.

DOE/NNSA FFRDC contractors participating as subcontractors will be funded directly by DOE through the DOE field work authorization system.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR Part 600 (See: http://ecfr.gpoaccess.gov). Grants and cooperative agreements made to universities, non-profits and other entities subject to OMB Circular A-110 are subject to the Research Terms and Conditions located on the National Science Foundation web site at http://www.nsf.gov/bfa/dias/policy/rtc/index.jsp.

Change in governance, exit of existing consortia partner or inclusion of new consortia partner will require prior approval from the Secretariat.

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at http://management.energy.gov/business_doe/business_forms.htm.
The National Policy Assurances To Be Incorporated As Award Terms are located at DOE http://management.energy.gov/business_doe/business_forms.htm.

Intellectual Property Provisions
The standard DOE financial assistance intellectual property provisions applicable to the various types of DOE recipients are located at http://www.gc.doe.gov/financial_assistance_awards.htm.

Awards to a DOE/NNSA National Laboratory will be subject to the intellectual property terms and conditions of the respective M&O contract.

Please note that these Intellectual Property Provisions shall be subject to Intellectual Property provisions included in the Agreement between DOE and the Government of India.

DOE Subcontract Consent
DOE reserves the right to require the awardee to obtain written approval of the Contracting Officer prior to placement of any subcontract(s).

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. For a sample Checklist, see http://www.netl.doe.gov/business/forms/FederalAssistanceReportingChecklistExample.pdf

PART IX – GOVERNMENT OF INDIA AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Selection

The selected consortium will be intimated through award letter, stating the approved funds. The consortia partners will sign agreement contract, IPR sharing agreement amongst the partners and provide their acceptance to begin performance. Organizations whose applications have not been selected will be informed as promptly as possible.

2. Notice of Award

A selected consortium will be issued the award letter including (1) Special Terms and Conditions of award; (2) Applicable program guidelines (3) Budget Summary; and (7) Reporting Checklist, which identifies the reporting requirements.

B. ADMINISTRATIVE REQUIREMENTS

A single organizational letter of commitment is required from each organization participating as a team member. Each letter of commitment from an organization participating as a team member must be signed by the person authorized to commit the organization to a legally binding agreement. Each organizational letter of commitment is limited to one page.

If multiple Principal Investigators will be designated, provide a Coordination and Management Plan that describes the organizations structure of the project as it pertains to the designations of multiple Principal Investigators. This plan, at a minimum, must describe the process for making decisions on scientific/technical direction, publications, and intellectual property issues. The plan must also describe Principal Investigators' roles and administrative, technical, and scientific responsibilities for the project; communication plans; and procedures for resolving conflicts. IPR sharing agreement amongst the partner must be worked out.

Change in governance, exit of existing consortia partner or inclusion of new consortia partner will require prior approval from the Secretariat.

C. REPORTING

Reporting requirements will be identified on the Reporting Checklist provided along with the award letter.

PART X - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement can be submitted to the contacts below.

Due to the time required to conduct research and provide complete and accurate answers to questions, DOE and the Government of India request that all questions be submitted no later than 12 noon U.S.A. Eastern Time on TBD. DOE and the Government of India will not be responsible for responding to questions submitted after the designated time on TBD.

B. CONTACT INFORMATION

Name: Malik Simone
E-mail: malik.simone@hq.doe.gov
FAX: (202) 287-1448
Telephone: (202) 287-1456

Name: Indo-US Science and Technology Forum
E-mail: program@indousstf.org
FAX: 91-11-23321552
Telephone: 91-11-42691700

PART XI - OTHER INFORMATION FOR UNITED STATES APPLICANTS

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements. More information is available at http://www.fedconnect.net.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION

All applications will be reviewed by U.S. and Indian reviewers.

Patentable ideas, trade secrets, proprietary or confidentional commercial or financial information, disclosure of which may harm the applicant, must be included in an application only when such information is necessary to convey an understanding of the proposed project. For those portions of applications that include such proprietary or confidential information, such information must be included in a separate attachment, and will be subject to the following: The use and disclosure of such data may be restricted to U.S. Government and Government of India evaluators, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

> "The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE and the Government of India shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government's right to use or disclose data obtained without restriction from any source, including the applicant."

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

"The following contains proprietary information that (name of applicant) requests not be released to persons outside the U.S. Government or the Government of India, except for purposes of review and evaluation."

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers

must sign conflict of interest and non-disclosure agreements with DOE prior to reviewing an application. Non-Federal personnel conducting administrative activities will be subject to appropriate obligations of confidentiality.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM

Intellectual Property Rights (IPR) are subject to Annex I, Intellectual Property (IPR Annex), of the Agreement on Science and Technology Cooperation between the Government of the United States of America and the Government of the Republic of India (S&T Agreement) and the respective standard IPR provisions of the Parties.

See Part VIII.B. 2., for information on DOE standard IP provisions.

Patent Rights

Normally, in a grant or cooperative agreement and a contract for the operation of a national laboratory, the U. S. Government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award, and rights in technical data first produced or specifically used in the performance of the award or laboratory contract. For a grant or cooperative agreement, and a contract for the operation of a national laboratory, the Bayh-Dole Act (35 U.S.C. 202) assures that a domestic small business, university or non-profit awardee will have the option to retain title to their own inventions, subject to the U.S. Government retaining a Government purpose license, march-in rights and a U.S. preference in licensing. Similarly, in the case of a contract for the operation of a national laboratory, or a cooperative agreement or grant to awardees who are not subject to the Bayh-Dole Act, e.g., large businesses, DOE will have issued,or would be prepared to issue, a “patent waiver” which would assure that those not subject to the Bayh-Dole Act will also have the option to retain title to their own inventions, subject to the same Government retained rights identified above. The waiver may address a requirement to manufacture new technology created under an award resulting from this FOA in the U.S. or provide other net economic benefits to the U.S. economy. The patent clause that will apply these provisions can be found at http://www.gc.doe.gov/documents/patwaivclau.pdf.

However, any award under this FOA will be subject to the DOE-Government of India Agreement signed on November 4, 2011.

Rights in Technical Data

DOE normally retains unlimited rights in technical data first produced under the Agreement for United States government funded activities. Proprietary software or data developed solely at private expense will not normally be required to be delivered to the Government except as specifically negotiated in a particular agreement. For this FOA, DOE has determined that special protected data rights may apply. The provisions provide for the protection from public disclosure, for a period of up to five (5) years from the development of the information, of data that would be trade secret, or commercial or financial information that is privileged or confidential, if the information had been obtained from a non-Federal party. Generally, the provision entitled, Rights in Data − Programs Covered Under Special Protected Data Statutes, (10 C.F.R. 600 Appendix A to Subpart D), would apply, but will be modified to list and identify data or categories of data first produced in the performance of the award that will be made available to the public, notwithstanding the statutory authority to withhold data from public dissemination, and will identify data that will be recognized by the parties as protected data.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

I. REAL PROPERTY AND EQUIPMENT

With respect to the use, management, and disposition of all real property and equipment, 10 CFR Sections 600.132 and 600.134 shall be applicable to grants with institutions of higher education, hospitals, and other nonprofit organizations; 10 CFR Section 600.321 shall be applicable to grants with for-profit organizations; and it is anticipated that the terms and conditions of the respective management and operating contract shall apply to awards to DOE/NNSA FFRDC contractors.

J. ENVIRONMENTAL, SAFETY AND HEALTH (ES&H) PERFORMANCE OF WORK AT DOE FACILITIES

With respect to the performance of any portion of the work under this award which is performed at a DOE-owned or controlled site, the recipient agrees to comply with all state and federal ES&H regulations, and with all other ES&H requirements of the operator of such site. The recipient shall apply this provision to its subawardees of any tier.

K. AVAILABILITY OF FUNDS

The Government's obligation under this award is contingent upon the availability of appropriated funds from which payment for award purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this award and until the awardee receives notice of such availability, to be confirmed in writing by the Contracting Officer.

PART XII - OTHER INFORMATION FOR INDIA APPLICANTS

APPENDICES/REFERENCE MATERIAL

Reference Material